

EXHIBIT 9

Reference Manual on Sci. Evid. 425 (3d ed.)

Reference Manual on Scientific Evidence (3d ed.)

*1 Federal Judicial Center^a

425. Reference Guide on Estimation of Economic Damages

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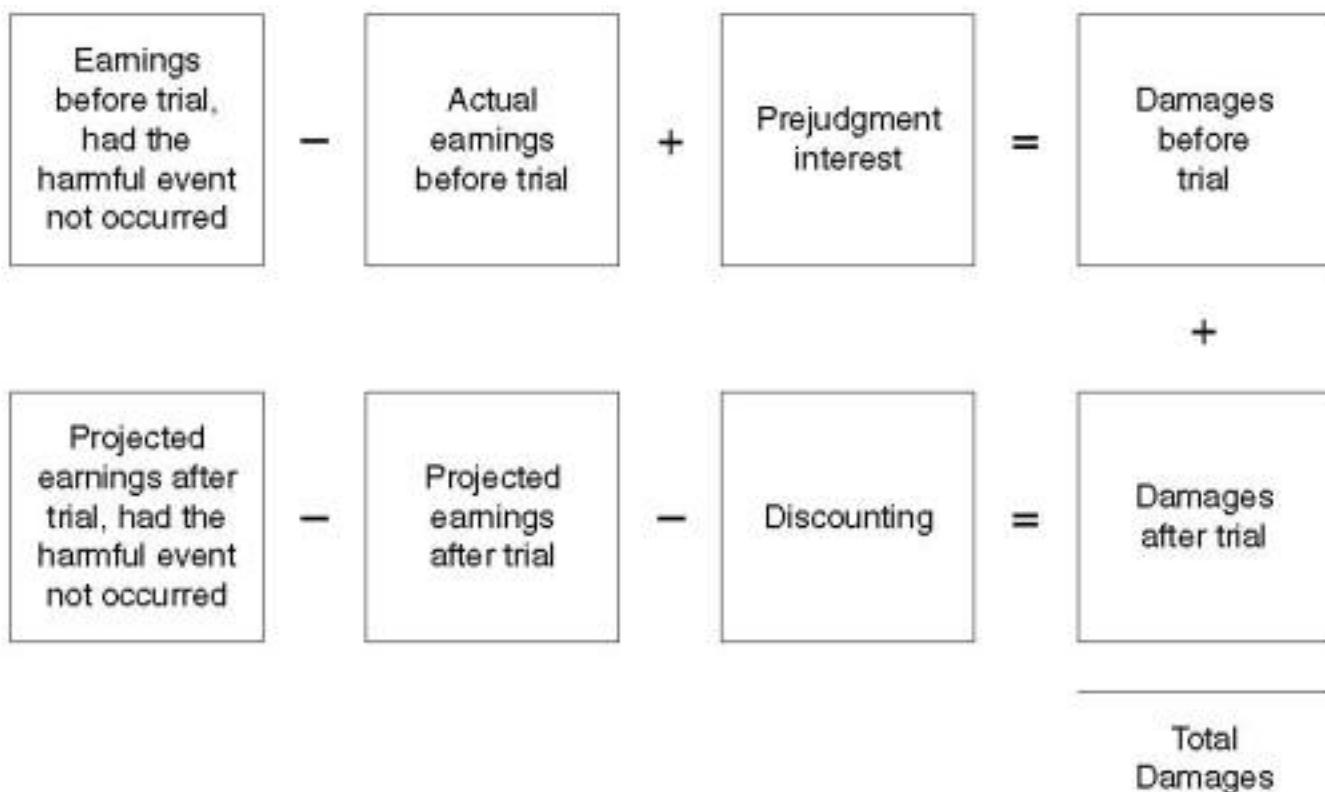
[429] I. Introduction

***2** This reference guide identifies areas of dispute that arise when economic losses are at issue in a legal proceeding. Our focus is on explaining the issues in these disputes rather than taking positions on their proper resolutions. We discuss the application of economic analysis within established legal frameworks for damages. We cover topics in economics that arise in measuring damages and provide citations to cases to illustrate the principles and techniques discussed in the text.

We begin by discussing the qualifications required of experts who quantify damages. We then set forth the standard general approach to damages quantification, with particular focus on defining the harmful event and the alternative, often called the but-for scenario. In principle, the difference between the plaintiff's economic value in the but-for scenario and in actuality measures the loss caused by the harmful act of the defendant. We then consider damages estimation for two cases: (1) a discrete loss of market value and (2) the loss of a flow of income over time, where damages are the discounted value of the lost cash flow. Other topics include the role of inflation, issues relating to income taxes and stock options, adjustments for the time value of money, legal limitations on damages, damages for a new business, disaggregation of damages when there are multiple challenged acts, the role of random events occurring between the harmful act and trial, data for damages measurement, standards for disclosing data to opposing parties, special masters and neutral experts, liquidated damages, damages in class actions, and lost earnings.¹

Our discussion follows the structure of the standard damages study, as shown in Figure 1. Damages quantification operates on the premise that the defendant is liable for damages from the defendant's harmful act. The plaintiff is entitled to recover monetary damages for losses occurring before and possibly after the time of the trial. The top line of Figure 1 measures the losses before trial; the bottom line measures the losses after trial.²

Figure 1. Standard format for a damages study.



The goal of damages measurement is to find the plaintiff's loss of economic value from the defendant's harmful act. The loss of value may have a one-time character, such as the diminished market value of a business or property, or it may take the form of a reduced stream of profit or earnings. The losses are net of any costs avoided because of the harmful act.

The essential elements of a study of losses are the quantification of the reduction in economic value, the calculation of interest on past losses, and the [430] application of financial discounting to future losses. The losses are the difference between the value the plaintiff would have received if the harmful event had not occurred and the value the plaintiff has or will receive, given the harmful event. The plaintiff may be entitled to interest for losses occurring before trial. Losses occurring after trial are usually discounted to the time of trial. The plaintiff may be due interest on the judgment from the time of trial to the time the defendant actually pays. The majority of damages studies fit this format; thus, we have used such a format as the basic model for this reference guide.

*3 We use numerous brief examples to explain the disputes that can arise. These examples are not full case descriptions; they are deliberately stylized. They attempt to capture the types of disagreements about damages that arise in practical experience, although they are purely hypothetical. In many examples, the dispute involves factual as well as legal issues. We do not try to resolve the disputes in these examples and hope that the examples will help clarify the legal and factual disputes that need to be resolved before or at trial. We introduce many areas of potential dispute with a question, because asking the parties these questions can identify and clarify the majority of disputes over economic damages.

The reader with limited experience in the economic analysis of damages may find it most helpful to begin with Sections II and III and then read Section XII.A, which provides a straightforward application of the principles. Sections IV, V, and VI may be particularly helpful for readers knowledgeable in accounting and valuation. The other sections discuss specific issues relating to damages, and some readers may find it useful to review only those specific to their needs. Section XII.B [431] discusses an application of some of these more specific issues in the context of a damages analysis for a business.

II. Damages Experts' Qualifications

Experts who quantify damages come from a variety of backgrounds. The expert should be trained and experienced in quantitative analysis. For economists, the common qualification is the Ph.D. Damages experts with business or accounting backgrounds often have M.B.A. degrees or other advanced degrees, or C.P.A. credentials. Both the method used and the substance of the

damages claim dictate the specific areas of specialization the expert needs. In some cases, participation in original research and authorship of professional publications may add to the qualifications of an expert. However, relevant research and publications are not likely to be on the topic of damages measurement *per se* but rather on topics and methods encountered in damages analysis. For example, a damages expert may need to restate prices and quantities for a but-for market with more sellers than are present in the actual market. For an expert undertaking this task, direct participation in research on the relation between market structure and performance would be helpful.

Many damages studies use statistical regression analysis.³ Specific training is required to apply regression analysis. Damages studies sometimes use field surveys.⁴ In this case, the damages expert should be trained in survey methods or should work in collaboration with a qualified survey statistician. Because damages estimation often makes use of accounting records, most damages experts need to be able to interpret materials prepared by professional accountants. Some damages issues may require assistance from a professional accountant.

***4** Experts also benefit from professional training and experience in areas relevant to the substance of the damages claim. For example, in antitrust, a background in industrial organization may be helpful; in securities damages, a background in finance may assist the expert; and in the case of lost earnings, an expert may benefit from training in labor economics.

An analysis by even the most qualified expert may face a challenge under the criteria associated with the *Daubert* and *Kumho* cases.⁵ These criteria are intended to exclude testimony based on untested and unreliable theories. Relatively few economists serving as damages experts succumb to *Daubert* challenges, because [432] most damages analyses operate in the familiar territory of measuring economic values using a combination of professional judgment and standard tools. But the circumstances of each damages analysis are unique, and a party may raise a *Daubert* challenge based on the proposition that the tools have never before been applied to these circumstances. Even if a *Daubert* challenge fails, it can be an effective way for the opposing party to probe the damages analysis prior to trial.

III. The Standard General Approach to Quantification of Damages

In this section, we review the elements of the standard loss measurement in the format of Figure 1. For each element, there are several areas of potential dispute. The sequence of issues discussed here should identify most of the areas of disagreement between the damages analyses of opposing parties.

A. Isolating the Effect of the Harmful Act

The first step in a damages study is the translation of the legal theory of the harmful event into an analysis of the economic impact of that event. In most cases, the analysis considers the difference between the plaintiff's economic position if the harmful event had not occurred and the plaintiff's actual economic position.

In almost all cases, the damages expert proceeds on the hypothesis that the defendant committed the harmful act and that the act was unlawful. Accordingly, throughout this discussion, we assume that the plaintiff is entitled to compensation for losses sustained from a harmful act of the defendant. The characterization of the harmful event begins with a clear statement of what occurred. The characterization also will include a description of the defendant's proper actions in place of its unlawful actions and a statement about the economic situation absent the wrongdoing, with the defendant's proper actions replacing the unlawful ones (the but-for scenario). Damages measurement then determines the plaintiff's hypothetical value in the but-for scenario. Economic damages are the difference between that value and the actual value that the plaintiff achieved.

Because the but-for scenario differs from what actually happened only with respect to the harmful act, damages measured in this way isolate the loss of value caused by the harmful act and exclude any change in the plaintiff's value arising from other sources. Thus, a proper construction of the but-for scenario and measurement of the hypothetical but-for plaintiff's value by definition includes in damages only the loss *caused* by the harmful act. The damages expert using the but-for approach does not usually testify separately about the causal relation between damages and the harmful act, although variations may occur where there are issues about the directness of the causal link.

***5** [433] *B. The Damages Quantum Prescribed by Law*